

Unit 10

Day 1

Linear Inequalities

Section 2.7 in textbook

1) review:

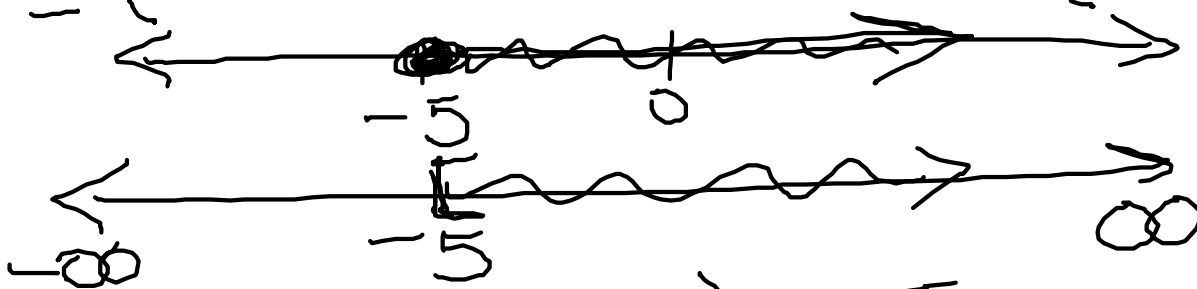
$$-3x + 2 \leq 17$$

$$-3x \leq 15$$

$$x \geq -5$$

$$\{x \mid x \geq -5\}$$

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$$[-5, \infty)$$

Interval Not.

Use solution set notation to state your answer and graph the solution.

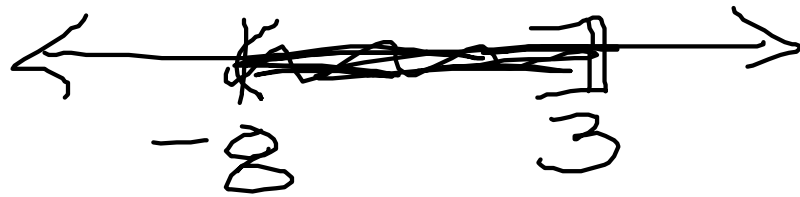
$$2) \quad a < -6$$

$$(-\infty, -6)$$

$$\{a \mid a < -6\}$$

Use solution set notation to state your answer and graph the solution.

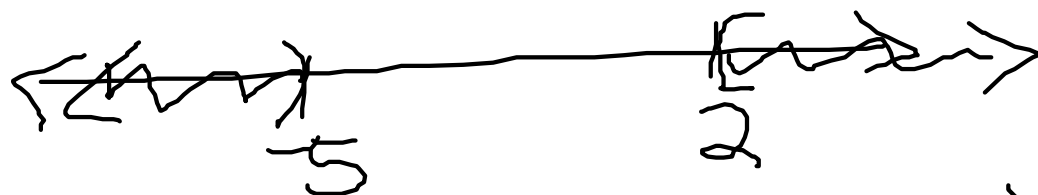
3)  $-8 < m \leq 3$



$$(-8, 3]$$

$$m > -8 \quad \underline{\underline{\text{AND}}} \quad m \leq 3$$

4)  $y < -5$  or  $y \geq 2$



$$(-\infty, -5) \cup [2, \infty)$$

5)



Inequality:  $3 \leq x < 5$

Interval Notation:

$[3, 5)$

6)

$(-\infty, 3) \cup [8, \infty)$

Inequality:

$x < 3$  or  $x \geq 8$

7) Solve and write the solution in interval notation

$$2(m+5) - 3m + 1 \geq 5$$

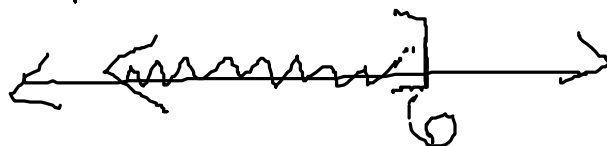
$$2m + 10 - 3m + 1 \geq 5$$

$$-1m + 11 \geq 5$$

$$-m \geq -6$$

$$m \leq 6$$

$$(-\infty, 6]$$



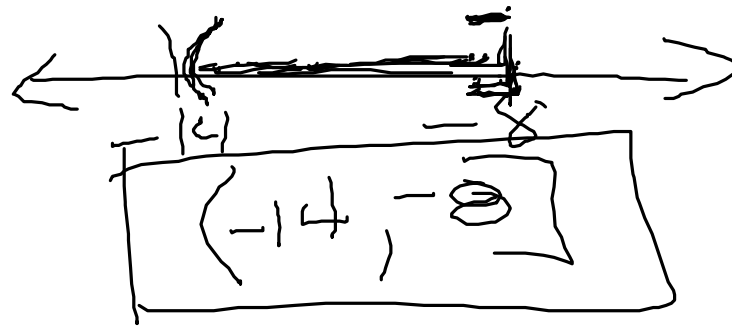
8) Solve and write the solution in interval notation

$$-12 < \frac{2r-8}{3} \leq -8$$

$$-36 < 2r-8 \leq -24$$

$$-28 < 2r \leq -16$$

$$-14 < r \leq -8$$



HW pg 145-146 1-10, 13-22 all